

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A printer which can store data received via a network in an auxiliary storage, comprising:
 - communication processing means for receiving data via the network;
 - image data generation means for interpreting said received data and generating image data;
 - printing processing means for printing based upon said generated image data;
 - detection means for detecting a state in which said received data is processed;
 - a first buffer memory provided between said communication processing means and said auxiliary storage and provided with plural memory blocks; and
 - a second buffer memory provided between said auxiliary storage and said image data generation means and provided with plural memory blocks,

wherein the printer includes at least three modes comprising: (i) a mode via an auxiliary storage in which said received data is input to said image data generation means via said auxiliary storage; and (ii) a first bypass mode in which said received data is input to said image

data generation means via said second buffer memory without being input to either said first buffer memory or said auxiliary storage; and (iii) a second bypass mode in which said received data is input to said image data generation means via said first and second buffer memories without being input to said auxiliary storage,

a bypass mode in which said received data is input to said image data generation means without being input to said auxiliary storage are switched based upon said detected data processing state, and in the criterion of the memory block of said first and second buffer memories. wherein selection of a mode to be used is based upon said detected data processing state and an availability of empty blocks of the plural memory blocks.

2. (original): A printer according to claim 1, wherein,

if data being processed is stored in said auxiliary storage, said mode via the auxiliary storage is selected; and if no data being processed is stored in said auxiliary storage, said bypass mode is selected.

3. (canceled).

4. (previously presented): A printer according to claim 1, wherein a first bypass mode as said bypass mode is realized when said communication processing means stores data in the memory block of said second buffer memory.

5. (original): A printer according to claim 4, wherein said first bypass mode is switched in case (a1) no memory block storing data exists in said first buffer memory, (a2) no data being processed is stored in said auxiliary storage and (a3) an empty memory block exists in said second buffer memory.
6. (original): A printer according to claim 5, wherein said second buffer memory is set so that capacity is more than the capacity of said first buffer memory.
7. (previously presented): A printer according to claim 1, wherein a second bypass mode as said bypass mode is realized when data stored in the memory block of said first buffer memory is sent to the memory block of said second buffer memory.
8. (previously presented): A printer according to claim 1, wherein a second bypass mode as said bypass mode is realized when data stored in the memory block of said first buffer memory is extracted and is sent to an empty memory block of said second buffer memory.
9. (previously presented): A printer according to claim 1, wherein a second bypass mode as said bypass mode is realized when the memory block storing data of said first buffer memory and an empty memory block of said second buffer memory are transposed.

10. (original): A printer according to any one of claims 7 to 9, wherein said second bypass mode is switched in case (b1) no data being processed is stored in said auxiliary storage, (b2) an empty memory block exists in said second buffer memory and (b3) a memory block storing data exists in said first buffer memory.

11. (previously presented): A printer according to claim 1, wherein said bypass mode includes (i) a first bypass mode in which said communication processing means stores data in the memory block of said second buffer memory and (ii) a second bypass mode in which data stored in the memory block of said first buffer memory is sent to the memory block of said second buffer memory, and said first bypass mode is switched in the following cases:

- (a1) no memory block storing data exists in said first buffer memory;
- (a2) no data being processed is stored in said auxiliary storage; and
- (a3) an empty memory block exists in said second buffer memory; and

 said second bypass mode is switched in the following

- (b1) no data being processed is stored in said auxiliary
- (b2) an empty memory block exists in said second buffer and
- (b3) a memory block storing data exists in said first buffer memory.

12. (currently amended): A printer which can store data received via a network in an auxiliary storage, comprising:
 communication processing means for receiving data via the network;

writing means for instructing said auxiliary storage to store data input from the communication processing means;

reading means for reading data stored in said auxiliary storage;

image data generation means for interpreting input data and generating image data;

printing processing means for printing based upon said generated image data; detection means for detecting data remaining in said auxiliary storage;

a first buffer memory provided between said communication processing means and said writing means and provided with plural memory blocks; and

a second buffer memory provided between said auxiliary storage and said reading means and provided with plural memory blocks,

wherein the printer includes at least three modes comprising: (i) a mode via the auxiliary storage in which data received by said communication processing means is input to said image data generation means sequentially via said first buffer memory, said writing means, said auxiliary storage, said reading means and said second buffer memory; ~~and~~ (ii) a first bypass mode in which data received by said communication processing means is input to said image data generation means via said second buffer memory without being input to either said first buffer memory or said auxiliary storage; and (iii) a second bypass mode in which data received by said communication processing means is input to said image data generation means without being input to said auxiliary storage; ~~are switched based upon a state in which each of said first and second buffer memories are used and quantity of data remaining in said auxiliary storage, and in the criterion of the memory block of said first and second buffer memories.~~ wherein

selection of a mode to be used is based upon said detected data processing state and an availability of empty blocks of the plural memory blocks.

13. (canceled).

14. (original): A data processing method of a printer provided with an auxiliary storage which can store data received via a network,

wherein a mode via the auxiliary storage in which data is transferred via said auxiliary storage and first and second bypass modes in which data is transferred without passing said auxiliary storage are provided;

(1) said mode via the auxiliary storage comprises:

a step for storing data received via the network in an empty memory block of a first buffer memory;

a step for extracting the data from the memory block storing the data of said first buffer memory to store it in said auxiliary storage;

a step for reading the data stored in said auxiliary storage to store it in an empty memory block of said second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

a step for printing based upon said generated image data;

(2) said first bypass mode comprises:

a step for storing data received via the network in an empty memory block of the second

buffer memory;

 a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

 a step for printing based upon said generated image data;

and

(3) said second bypass mode comprises:

 a step for storing data received via the network in an empty memory block of the first buffer memory;

 a step for extracting the data from the memory block storing the data of said first buffer memory to send it to an empty memory block of said second buffer memory;

 a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

 a step for printing based upon said generated image data.

15. (original): A data processing method of a printer provided with an auxiliary storage which can store data received via a network,

 wherein a mode via the auxiliary storage in which data is transferred via said auxiliary storage and first and second bypass modes in which data is transferred without passing said auxiliary storage are provided;

(1) said mode via the auxiliary storage comprises:

 a step for storing data received via the network in an empty memory block of a first buffer memory;

a step for extracting the data from the memory block storing the data of said first buffer memory to store it in said auxiliary storage;

a step for reading the data stored in said auxiliary storage to store it in an empty memory block of a second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

a step for printing based upon said generated image data;

(2) said first bypass mode comprises:

a step for storing data received via the network in an empty memory block of the second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and

a step for printing based upon said generated image data;

and

(3) said second bypass mode comprises:

a step for storing data received via the network in an empty memory block of the first buffer memory;

a step for transposing the memory block storing the data of said first buffer memory and an empty memory block of said second buffer memory;

a step for extracting the data from the memory block storing the data of said second buffer memory to interpret it thereby generating image data; and
a step for printing based upon said generated image data.

16. (canceled).

17. (canceled).